DOCUMENT RESUME

ED 341 805 CE 060 283

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TITLE Job Instruction Training.
PUB DATE Sep 88
NOTE 14p.; Paper presented at the On-the-Job Training Symposium of the Association of Training and Development Officers (Gaborone, Botswana, September 5-7, 1988).
PUB TYPE Speeches/Conference Papers (150) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Education; Developing Nations; Foreign Countries; *Industrial Training; *Inplant Programs; Labor Force Development; *On the Job Training; *Peer Teaching; Staff Development; *Trade and Industrial Education
IDENTIFIERS Botswana; *Job Instruction Training

ABSTRACT

Job Instruction Training (JIT) is a step-by-step, relatively simple technique used to train employees on the job. It is especially suitable for teaching manual skills or procedures; the trainer is usually an employee's supervisor but can be a co-worker. The JIT technique consists of a series of steps that a supervisor or other instructor follows when teaching an employee to do something. As adapted for use in Botswana, the steps consist of the following: (1) get ready to instruct; (2) prepare the learner; (3) present the learning; (4) try out learner performance; and (5) follow up. The steps are often summarized and printed on a small card that can be put in a worker's wallet or pocket. The worker can refer to the card when preparing to instruct or when instructing another employee. The Institute of Development Management has found that 10 hours spread over 4 or 5 days are needed to teach and learn this skill in Botswana. On-the-job training workshops typically devote 3 hours to job analysis, 3 hours to introducing the JIT approach, and 4 hours to practice and feedback. Additional time is given to other training techniques and affecting change towards use of these techniques. (12 references) (YLB)

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# JOB INSTRUCTION TRAINING

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On-the-Job Training Symposium
Association of Training and Development Officers
Gaborone, Botswana

5th-7th September 1988

CE 060 263

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## INTRODUCTION

Job Instruction Training (JIT) is a step-by-step, relatively simple technique used to train employees on-the-job. It is especially suitable for teaching manual skills or procedures (such as how to operate a machine, fill in a form, or serve customers). The "trainer" who uses JIT is usually an employee's supervisor, but he or she can be a co-worker or another person who knows how to do the task to be learned. The technique can be used equally by the head of an organisation training a new deputy as by a craftsman training an apprentice (Short, 1974, p. 16).

The JIT technique consists of a series of steps which a supervisor or other instructor follows when teaching an employee to do something. The steps, as taught by the Institute of Development Management (IDM), are as follows:

Step 1: Get Ready to Instruct
Step 2: Prepare the Learner
Step 3: Present the Learning
Step 4: Try Out Learner Performance
Step 5: Follow Up.

The JIT technique is not new to Botswana. It has been introduced to Debswana personnel in Jwaneng. Department of Roads, Department of Electrical and Mechanical Services, and Central Transport Organisation personnel have also developed JIT skills in workshops conducted by the IDM. In terms of numbers, however, only a relatively few persons in Botswana know how to use the JIT technique.

JIT was developed during World War II by a Training Within Industry (TWI) service as a quick method for converting supervisors, experienced craftsmen and others into reasonably effective job-skills trainers (McCord, 1976; R.Z., 1983, p. 65). The effectiveness of the technique was amply demonstrated - during the war and afterwards. Millions of personnel have been trained to effectively use JIT at the workplace.

## JIT STEPS

As mentioned before, JIT consists of a series of steps performed one by one in order to teach an employee a task or other skill to be learned. As adapted by the IDM for use in Botswana, the steps consist of the following.

### Step 1: Get Ready to Instruct

This step prepares the supervisor to instruct once he or she has determined that an employee needs to learn a particular skill or procedure. The step consists mainly of the following:

- Break down the job.
- Prepare an instructional plan.
- Get everything ready.

"Breaking down the job" involves dividing the task to be learned into its smaller parts. It consists of the supervisor thinking about and identifying the important steps involved in doing the skill to be learned. He or she must also consider "key points" involved in carrying out the steps, such as:

- hazards or cautions about safety.
- factors which make or break the step.
- pointers which make the steps easier to do (ex., knacks, tricks, additional bits of information, special training) (McCord, 1987, p. 376).

A good job breakdown covers every step and important aspect of the operation (Gold, 1981, p. 29). Figure 1, for example, shows a job breakdown for checking the oil in a Landrover. Figure 2 shows another one, based on a task analysis, for baking bread. The breakdown is usually written down on paper to help insure that all important points and steps are identified. This is especially important to do if the task is an important one or if large numbers of employees are to be trained to do it.

JOB BREAKDOWN SHEET FOR TRAINING PURPOSES

DEPARTMENT: IDM JOB: Checking Oil in Landrover

BREAKDOWN MADE BY: Richard H. Pfau DATE: 15 May 1987

| | IMPORTANT STEPS (WHAT TO DO) A logical segment of the operation, when something happens to advance the work | KEY POINTS (HOW TO DO IT) Anything that may: Make or break the job Injure the worker Make the work easier to do |
|---|---|---|
| 1. | Make sure vehicle is level | |
| 2. | Raise bonnet | - push release lever<br>- lift bonnet<br>- support with prop mechanism |
| 3. | Remove and fully wipe dip stick | - use clean cloth or paper<br>- be careful not to burn self if engine is hot |
| 4. | Insert dip stick | - make sure that stick is all the way in |
| 5. | Remove and check oil on dip stick | - if near "H" oil level is OK<br>- if near "L" oil is needed |
| 6. | Replace dip stick | |
| 7. | Close bonnet securely | - release bonnet prop<br>- don't drop all the way |

Figure 1. Job breakdown for checking the oil in a Landrover

TASK ANALYSIS

JOB Baker's Helper

TASK Baking Bread

| Main Step | Key Point | Procedure (Material, Equipment, Tools) | Reason | Standards of Performance |
|---|---|---|---|---|
| Knead dough | Put light coating of flour on hands. Flatten dough by curving fingers over dough and pushing down with heel of palm.<br><br>Turn dough one-quarter, fold and push down, repeat process. for 8-10 minutes | Mixed dough. Flour. Flat surface. | To keep hands from sticking to dough. Flour added later will coarsen texture. | Prepare dough and bake evenly formed loaves of bread |
| Place dough in lightly greased mixing vats to rise | Turn dough once on greased surface. Cover with a cloth. Place in warm area 82° until double size, tolerance fermentation. | Cloth. | Prevents crust from forming. | |
| Form into shape for baking | Divide dough into 6-inch balls. Cover and let rest, 10 minutes. Flatten into 10 by 14-inch rectangles. Form loaves by rolling dough toward you. Break Bubbles in surface. Seal ends by pushing with side of hand; fold top of dough around sides. Cover and let double in bulk, 1 hour. | | Leaves a smooth crust after baking. | |
| Preheat oven 375° | | | | |
| Bake for 50 minutes | Crust should be lightly browned. | | | |

Note. From A.B. McCord. Job training. In R.L. Craig (Ed.), Training and development handbook (3rd ed.). New York: McGraw-Hill, 1987, p. 378.

Figure 2. Task analysis for baking bread

"Preparing an instructional plan" involves making a plan concerning when to teach the employee, determining what materials are needed, what to do first when meeting the employee, how to present the learning, how to have the employee try out the skills being learned, and how to provide guidance and follow-up afterwards. In other words, the supervisor should have a plan (on paper or in his head) as to how he will go about instructing the employee until the task to be learned has been mastered. When making this plan, the supervisor should make sure that he or she, does not try to teach too much at one time and thereby overwhelm, confuse and frustrate the employee.

Lastly, before meeting the learner, the supervisor should make sure that everything is ready to instruct the employee. Doing this will help avoid wasting time. It can also help make a favourable impression on the employee by indicating that the instruction is important enough for the supervisor to make preparations beforehand.

Step 2: Prepare the Learner

This step concerns what the supervisor does when he first meets the employee to instruct him or her in the skill to be learned. The step consists of the following:

- Put the learner at ease.
- State the task to be learned.
- Get him/her interested.
- Find out what he/she already knows about it.
- Place in the best position to see.

"Putting the learner at ease" should be done when the learning activity first begins. Many people feel a bit uneasy when in a new situation and learning a skill for the first time. The supervisor's task when meeting the learner is to overcome such learning inhibiting factors. This can be done by being friendly, using informal talk, ensuring that the employee can learn the task, and indicating that questions are welcome and can be asked at any time (Broadwell, 1986, pp. 111-116; Gold, 1981, pp. 29-30).

The supervisor then gives a brief idea of what is to be learned and why it is important for the employee to learn the skill. Getting the employee interested by indicating the importance and personal advantages of learning to do the task will help motivate him or her to learn it. Personal advantages which might be pointed out, for example, include possibilities for promotion, more respect from fellow-workers, more responsibility because of added ability, easier work, less repetition, more self satisfaction, gaining recognition and prestige, or simply keeping one's job because the task is something that the employee must be able to do (Broadwell, 1986, pp. 117-119; Gold, 1981, p. 30).

Finding out what the employee already knows about the task is also an important part of this step. Some employees know more than others. Instruction should be adjusted to the individual. If any employee says that he/she can already do the task, the supervisor should go directly to "Step 4: Try Out Learner Performance".

If the employee does not know how to do the task, the last thing to be done as part of this step is to place him or her in the best position to view the operation clearly. This means avoiding showing the learner anything while the supervisor is facing him. The employee should be placed next to the supervisor so that the operation is seen exactly the same way the supervisor sees it when doing it (Broadwell, 1986, pp. 119-120).

Step 3: Present the Learning

During this step, the actual training really begins. The step consists of four activities:

- **Tell.**
- **Show.**
- **Demonstrate and**
- **Explain.**

"Telling" means giving a brief overview of the main steps to be learned. The main steps identified in the job breakdown are first introduced, verbally, at this point.

"Showing" consists of doing the operation at its normal speed so that the learner can see the rhythm of the operation and how each step leads to the next one (Gold, 1981, p. 31).

The supervisor then clearly "demonstrates" each step of the task and "explains" what is being done and why. At this time the key points, such as safety factors and common errors, are explained. Why things are done in a particular way can also be explained, but the supervisor must be careful not to overwhelm the learner with unnecessary detail. Points vital to learning the operation and to safety are stressed. Learners' questions are encouraged.

Step 4: Try Out Learner Performance

This step consists of the following:

- Have the learner tell how to do the task.
- Have the learner show how to do it.
- Provide feedback.
- Continue until you know the learner can do it properly.

This step begins by having the learner tell how to do the task while the supervisor does it (Broadwell, 1986, p. 121). Having the learner first tell how to do it provides a safe way for the supervisor to check understanding of the steps and to reinforce learning of those steps. It also helps to ensure that the learner and equipment are not put in danger. That is, having the learner first tell what to do helps avoid possibly expensive mistakes.

The supervisor should then have the learner show how to do each step while also telling how to do it and mentioning key points. Ideally, the learner should tell what he or she is going to do just before doing it.

While these things are being done, the supervisor patiently gives both positive and negative feedback. That is, the supervisor tells the learner what he or she is doing correctly (ex., by saying "OK" or "that's right") and corrects any errors that the learner makes. He or she may also ask questions to bring out key points and reinstructs when necessary.

This process is continued until the supervisor is sure that the employee can do the steps safely and correctly.

Step 5: Follow Up

This step consists of ending the immediate instruction and then following up later to provide additional guidance to the employee. The following should be done:

- Indicate responsibility, authority and establish accountability.
- Tell whom to see for help.
- Check progress frequently at first.
- When satisfied, tell the employee (Debswana: Jwaneng, n.d.).

At the end of the JIT session, the supervisor tells the employee what to do next by indicating his or her responsibilities, authority, and when to begin doing the task learned. The supervisor also indicates who to see for help if problems or questions arise when doing the task learned.

Afterwards, the supervisor should occasionally check to see how the employee is doing the task, to evaluate progress and to provide additional guidance, feedback, and instruction until the task is thoroughly learned. Follow up should occur until the supervisor is satisfied with the employee's performance of the task learned. When satisfied, the supervisor then tells the employee he or she is satisfied (Debswana: Jwaneng, n.d.). It is only when the supervisor resolves that the employee can do the task with normal supervision that instruction is completed (Gold, 1981, p. 32).

## THE JIT CARD

The JIT steps are often summarized and printed on a small card that can be put in a worker's wallet or pocket. The worker can then refer to the card when preparing to instruct or when instructing another employee to help make sure that no important JIT procedures are omitted. Figure 3 shows the two sides of a JIT card developed for use during WWII. Figure 4 shows a JIT card produced for use by Debswana Jwaneng mine employees. Although organisations that use JIT cards often develop their own versions (Wickert, 1974, p. 8), the main steps and sequence of instruction are basically the same.

**HOW TO GET READY TO INSTRUCT**

***Have a Time Table—***
how much skill you expect him to have, and how soon.

***Break Down the Job—***
list principal steps.
pick out the key points.

***Have Everything Ready—***
the right equipment, materials, and supplies.

***Have the Work Place Properly Arranged—***
just as the worker will be expected to keep it.

*Job Instructor Training*

WAR MANPOWER COMMISSION
BUREAU OF TRAINING
TRAINING WITHIN INDUSTRY

**KEEP THIS CARD HANDY**

18—26703-1 GPO

**HOW TO INSTRUCT**

***Step 1—Prepare the Worker***
Put him at ease.
Find out what he already knows about the job.
Get him interested in learning job.
Place in correct position.

***Step 2—Present the Operation***
Tell, Show, Illustrate, and Question carefully and patiently.
Stress key points.
Instruct clearly and completely, taking up one point at a time—but no more than he can master.

***Step 3—Try Out Performance***
Test him by having him perform job.
Have him *tell* and *show* you; have him explain key points.
Ask questions and correct errors.
Continue until you know *HE* knows.

***Step 4—Follow Up***
Put him on his own. Designate to whom he goes for help.
Check frequently. Encourage questions. Get him to look for key points as he progresses.
Taper off extra coaching and close follow-up.

18—24703-3

**If Worker Hasn't Learned, the Instructor Hasn't Taught**

Figure 3. JIT card used during WWII

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HOW TO HANDLE MISTAKES

- Ask him PATIENTLY to tell you how it happened.
- AVOID saying who is to blame.
- Use questions to make sure he KNOWS what he should have done and WHY.
- HELP him work out what to do about it now.
- HELP him plan to prevent a recurrence.
- Follow-up on his performance.

TRAINING PLAN

- Draw up a Training Plan.
- Decide WHO has to be trained, on WHAT JOB by WHAT DATE.
- Keep Training Plan up to date.

PPCB 17234

Debswana Jwaneng
Jwaneng Mine

EFFECTIVE INSTRUCTIONS

HOW TO GET READY TO INSTRUCT

- If necessary, split up the job to avoid giving too much during one INSTRUCTION PERIOD.
- If needed, make a BREAKDOWN of the instruction.
  - — List the KEY POINTS you will stress. SAFETY Points are always Key Points.
  - — Check that these KEY POINTS are brief, clear and complete.
  - — Arrange KEY POINTS in logical order.
  - — Decide where to pause to confirm the learning, before going further.
  - — Give a title to each STAGE in the instruction.
- Get everything ready that you will need during the instruction.

HOW TO INSTRUCT

STEP 1 PREPARE:

- Put at ease.
- State the job to be done.
- Find out what he already knows about it.
- Adjust the instruction to suit the individual.
- Get him interested in doing the job efficiently.
- Place him in the best position to view the operation clearly.

STEP 2 PRESENT (as needed):

- Tell and show him one STAGE at a time proceeding at a suitable pace.
- Give the Stage title and stress the KEY POINTS in that Stage.
- Point out WHY each Key Point is important.

STEP 3 CONFIRM:

- [illegible] him to tell or show you how he will do the job STAGE BY STAGE.
- Use questions to make sure he understands the reasons for each KEY POINT.
- Spot errors and PATIENTLY correct them as they occur.
- Continue until YOU know HE knows.

STEP 4 PUT TO WORK:

- Indicate responsibilities, authority and establish accountability.
- Tell him who could help him on the job.
- Encourage any remaining questions.
- Check later, as necessary, until satisfied with his job performance, then tell him you are satisfied.

THE INSTRUCTION IS COMPLETE ONLY WHEN THE LEARNER HAS LEARNT.

Figure 4. Debswana Jwaneng JIT card

## TRAINING SUPERVISORS TO USE JIT

During WWII, supervisors were trained to use JIT in five 2 hour sessions, scheduled over a 2 week period (McCord, 1976, p. 32-10). The IDM has also found that 10 hours, spread over 4 or 5 days, are needed to teach and learn this skill in Botswana. IDM "On-the-job Training Workshops" typically devote 3 hours to job analysis, 3 hours to introducing the JIT approach, and 4 hours to practice and feedback; additional time is also devoted to acquainting supervisors with several other on-the-job training techniques (i.e., "orientation" and "delegation") and to favourably affecting attitudes towards use of these techniques (see Pfau, 1987 and 1988 for details). The Institute's staff are willing to share their experiences with interested persons and can schedule special OJT workshops for organisations wishing help in training their managers and supervisors.

## CONCLUDING REMARKS

As has been indicated, Job Instruction Training was designed to provide nonprofessional instructors, usually line personnel, with a quick and easy method for teaching employees at the job site (Nadler, 1982, p. 144). Although specifically designed for use by first level supervisors, the method is equally applicable to the head of an organisation training a deputy. JIT is an elegantly simple way to achieve efficient, productive learning (Laird, 1985, p. 166). It can be used alone or integrated with classroom training as in apprenticeship training schemes or mobile in-service training as provided by the Unified Local Government Service in Botswana. It is a technique that can be used in large organisations as well as in companies that are too small to use other means of training (McCord, 1976, p. 32-21). It is an effective technique.

In short, on-the-job-training is too crucial to leave to chance. By training supervisors and other skilled workers to use Job Instruction Training, "organisations can help ensure that this vital responsibility will be carried out as efficiently and professionally as possible" (Gold, 1981, p. 32).

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